

ATPAC UPDATE
AREA OF CONCERN 116-3

7/14/04
SAFETY: No

SUBJECT: ILS Glide Slope Critical Area Advisory

REFERENCE: AIM 1-1-9k2(b)(2)

DISCUSSION: The above referenced paragraph in the AIM does not accurately reflect what terminology pilots should use when advising ATC they will conduct a coupled/autoland approach when the weather is above 800-2. The example used in the paragraph “*Glide slope signal not protected*” is an advisory that would be issued by the control tower in response to pilot notification of a coupled approach.

Another issue contained in this paragraph that ATPAC needs to discuss is that the ILS critical areas are only protected when the aircraft is inside the middle marker (MM). Considering the fact that MM’s are located approximately 3500ft from the runway threshold, which is entirely too short a distance to be useful for such approaches, and they are being removed at the majority of locations, it appears necessary to replace the term MM in this paragraph with “Final Approach Fix (FAF).” This would be in line with the Glide Slope Critical Area comments contained in AIM paragraph 1-1-9k(2).

The use of coupled/autoland approaches has become more common with the fleet of highly automated aircraft operating in the inventory, and the ILS critical area requirements need to be updated to reflect this fact.

SUGGESTED ATPAC ACTION: That ATPAC discuss this issue and recommend the following:

1. That the pilot advisory example contained in the above referenced AIM paragraph be replaced with the following sample advisory: “*(Name of tower)(Callsign) coupled/autoland approach.*”
2. That the term MM contained in the above referenced AIM paragraph be replaced with the term **FAF** or **OM**, whichever is the most appropriate.

116 - MSP has a glideslope critical area issue with a certain taxiway. Many aircraft use the coupled approach most of the time. Comment that when issuing ILS procedures it should be known that the aircraft is coupled without having to broadcast it on the frequency. This will be a capacity issue because aircraft must be certified to “autoland.” If not certified, they can’t fly CATIII. AFS needs to be involved in this issue.

RECOMMENDATION #1: 1. That the pilot advisory example contained in the above referenced AIM paragraph be replaced with the following sample advisory: “(Name of tower)(Callsign) coupled/autoland approach.” 2. That the term MM contained in the above referenced AIM paragraph be replaced with the term FAF or OM, whichever is the most appropriate.

117 - Office of Primary Interest (OPI) has been contacted. Committee will be provided status when available.

118 - There was concern that the OPI would understand the issues being addressed and would make the proper handbook changes. The OPI will be contacted and a discussion will be held at the next meeting.

119 - 800&2 and below is protected, not above. If there is no compelling evidence then policy should not be changed. Possibly change 7210.3 to designate a runway for autoland approaches to CAT II/III runways. Alternate is maintenance recertification.

RECOMMENDATION #2: That the FAA ATO develop guidance to achieve the following: FAA Order 7210.3, Facility Operation and Administration, should be changed to have terminal facilities with CAT II or CAT III approaches include procedures to accommodate “coupled” or “autoland” operations per FAA Order 7110.65, 3-7-5b to include protecting the critical area. This should include controller awareness of the need to accommodate these operators and may include designating a preferred runway and arrival procedures for these operations.

120 - Several ideas were provided on this AOC:

- Consider designating autoland/coupled approach runways as per Recommendation #2.
- Provide more education to controllers.
- Obtain development help from Anchorage office (Motzko).
- Certification could relax the 90 day requirement for autoland/coupled approaches.
- Determine which airports could dedicate a runway for these approaches.

AT and AF will work on the dedicated runway issue.

RECOMMENDATION #3: Synchronize the AIM to the 7110.65/PCG definition of ILS Critical Area.

121 - Instruction issued to controllers to issue and protect the approaches when able. ATO-T said there is no need for having airports dedicate runways for this purpose. Airports need to be aware of the need and accommodate as much as possible.

122 - Article in ATB regarding facility’s handling coupled/autoland approaches. There are 2 issues. Autopilot cert. issues and flying coupled because ops. Specs. /company require it. If the critical area is unprotected the pilot is out on a limb. There is a disconnect between certification, AFS, AT, and the POIs.

RECOMMENDATION #1 (Revised Part 1): That the pilot advisory example contained in the above referenced AIM paragraph be replaced with the following sample advisory: *(Call sign) AUTOLAND or COUPLED APPROACH.*

Add: The tower will advise if the ILS critical areas are not protected with the following sample advisory: *ILS critical areas not protected.*

123 - Comment that ATC is not aware of the requirements for autoland/coupled approaches. Would an ATB article help address this issue? AFS could look at the requirements because they are the ones that impose them.

ATO-T will work Recommendation #1 and the chair will provide draft language for Recommendation #3. As previously reported, Recommendation #2 will not be implemented.

124 - Common language was defined by the group and will be submitted. Mark Cato will write an article for pilots and Flight Standards highlighting the committee's new thinking on the coupled/autoland issue and Harry will consider that as a starting point for coordination for an HBAT item. Also, Dave and John will develop a DCP to reflect the following ATPAC recommendations:

Recommended changes included deleting references to Autoland in Coupled Definition and Coupled in Autoland Definition.

AUTOLAND APPROACH- An autoland approach is a precision instrument approach to touchdown and, in some cases, through the landing rollout. An autoland approach is performed by the aircraft autopilot which is receiving position information and/or steering commands from onboard navigation equipment.

1. Note: Autoland approaches are flown in VFR and IFR. It is common for carriers to require their crews to fly autoland approaches (if certified) when the weather conditions are less than approximately 4,000 RVR.

COUPLED APPROACH- A coupled approach is an instrument approach performed by the aircraft autopilot which is receiving position information and/or steering commands from onboard navigation equipment. In general, coupled nonprecision approaches must be discontinued and flown manually at altitudes lower than 50 feet below the minimum descent altitude, and coupled precision approaches must be flown manually below 50 feet AGL.

1. Note: Coupled approaches are flown in VFR and IFR. It is common for carriers to require their crews to fly coupled approaches (if certified) when the weather conditions are less than approximately 4,000 RVR.

7110.65 Recommended change

3-7-5. PRECISION APPROACH CRITICAL AREA

1b. Air carriers commonly conduct "autoland" operations to satisfy maintenance, training, or reliability program requirements. Promptly issue an advisory if the critical area will not be protected when an arriving aircraft advises that an "autoland" approach will be conducted and the weather is reported ceiling of 800 feet or more, and the visibility is 2 miles or more.

Recommended change includes flight crew notification to Approach Control

AIM 1-1-9k2

k. ILS Course Distortion

1. 1. All pilots should be aware that disturbances to ILS localizer and glide slope courses may occur when surface vehicles or aircraft are operated near the localizer or glide slope antennas. Most ILS installations are subject to signal interference by surface vehicles, aircraft or both. ILS CRITICAL AREAS are established near each localizer and glide slope antenna.

2. ATC issues control instructions to avoid interfering operations within ILS critical areas at controlled airports during the hours the Airport Traffic Control Tower (ATCT) is in operation as follows:

(a) Weather Conditions. Less than ceiling 800 feet and/or visibility 2 miles.

(1) Localizer Critical Area. Except for aircraft that land, exit a runway, depart or miss approach, vehicles and aircraft are not authorized in or over the critical area when an arriving aircraft is between the ILS final approach fix and the airport. Additionally, when the ceiling is less than 200 feet and/or the visibility is RVR 2,000 or less, vehicle and aircraft operations in or over the area are not authorized when an arriving aircraft is inside the ILS MM.

(2) Glide Slope Critical Area. Vehicles and aircraft are not authorized in the area when an arriving aircraft is between the ILS final approach fix and the airport unless the aircraft has reported the airport in sight and is circling or side stepping to land on a runway other than the ILS runway.

(b) Weather Conditions. At or above ceiling 800 feet and/or visibility 2 miles.

(1) No critical area protective action is provided under these conditions.

(2) A flight crew, under these conditions, should advise the approach control, "(Call sign), autoland approach." to request that the ILS critical areas are protected.

EXAMPLE-

Glide slope signal not protected.

(Note added)

Note: Aircrews navigating a precision or non-precision approach other than autoland by engaging the autopilot should not expect critical area protection if the weather is at or above ceiling 800 feet and/or visibility 2 miles.

3. Aircraft holding below 5,000 feet between the outer marker and the airport may cause localizer signal variations for aircraft conducting the ILS approach. Accordingly, such

holding is not authorized when weather or visibility conditions are less than ceiling 800 feet and/or visibility 2 miles.

4. Pilots are cautioned that vehicular traffic not subject to ATC may cause momentary deviation to ILS course or glide slope signals. Also, critical areas are not protected at uncontrolled airports or at airports with an operating control tower when weather or visibility conditions are above those requiring protective measures. Aircraft conducting coupled or autoland operations should be especially alert in monitoring automatic flight control systems.

(See FIG 1-1-7.)

NOTE-

Unless otherwise coordinated through Flight Standards, ILS signals to Category I runways are not flight inspected below 100 feet AGL. Guidance signal anomalies may be encountered below this altitude.

125 - The ATPAC recommendation was validated and will be forwarded for action by ATO-R.

126 - Dave Madison was unable to attend this meeting for ATO-T.

127 - Ben Grimes will check into the status of this recommendation and report at 128.

128 - Ben Grimes advised the committee that ATO-T non-concurred with the recommendation.

129 - Discussions were centered on the committee's desire to resolve what they perceived to be a critical flight issue that should be addressed.

130 - Wilson Riggan will provide a memorandum for submission to ATO-T through Kerry Rose.

131 - It was determined that FAAO 7110.65 had been changed to reflect the ATPAC recommendation leaving only the AIM to be addressed by this proposed change in Para 1-1-9k2.

132 - Flight Standards controls AIM information and will be asked to match the 7110.65 entries.

CURRENT STATUS: DEFERRED

IOU REMAINS OPEN (ATO-R)